



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
087/726-093	10/04/96	FUCHS	087/726-093

TESTA HURWITZ AND THIBEAULT  
PATENT ADMINISTRATOR  
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HM31/1001

MARSCHELLE EXAMINER

ART UNIT	PAPER NUMBER
1604	16

10/01/98

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

08/726,093

Applicant(s)

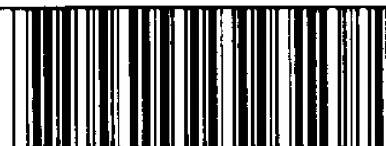
Fuchs et al.

Examiner

Ardin H. Marschel

Group Art Unit

1634



☒ Responsive to communication(s) filed on Jul 28, 1998

☒ This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 32-67 is/are pending in the application.

~~Of the above, claim(s) 1-31 have been canceled.~~ ~~is/are withdrawn from consideration.~~

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 32-37, 39-58, 61, 62, 64, 66, and 67 is/are rejected.

☒ Claim(s) 38, 59, 60, 63, and 65 is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☒ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Pursuant to the timely filing of a CONTINUED PROSECUTION APPLICATION (CPA), the finality of the previous Office action has been withdrawn.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 32, 33, 35-37, 39, 40, 42-47, 50-53, 55, and 56 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Rose.

This rejection is reiterated and maintained from the previous office action, mailed 8/22/97. Applicants argue that PNA strand displacement of homoduplex is the mechanism of formation of PNA/oligonucleotide complexes rather than denaturation via any reagent. This is non-persuasive because an inherent step before PNA hybridization is denaturation of homoduplex. The equilibrium argued by applicants wherein a PNA molecule replaces an ODN (oligonucleotide) is incomplete in describing the detailed mechanism of such displacement. The detailed mechanism firstly produces two ODN strands via denaturation followed by PNA hybridization to one of the ODNs. It is further noted that applicants have not set forth any publication or support for their allegation of PNA strand displacement without ODN/ODN denaturation first. Applicants also

argue that Figure 7 shows mostly ODN/ODN duplex to indicate that denaturing conditions are not present. The operative word therein is "mostly" which admits of some denaturation. It is noted that neither the instant claims nor the Rose disclosure requires complete full denaturation of ODN/ODN duplex. In other words partial denaturation which occurs as depicted in Figure 7 meets both the Rose conditions as well as those of the instant claims.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103(a).

Claims 46, 49-51, 54-58, 61, 62, 64, 66, and 67 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilding et al. (P/N 5,498,392), taken in view of Summerton et al. (P/N 5,217,866).

This rejection is reiterated and maintained from the previous office action, mailed 8/22/97, for instant claims which do not require label on the PNA probes. The instant claims requiring labeled PNA probe practice have been removed from this rejection due to persuasive arguments of applicants on this point.

Claims 32-37, 39-53, 55, and 56 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rose taken in view of Chen et al. (Ref. CN).

This rejection is reiterated and maintained from the previous office action, mailed 8/22/97. The arguments regarding Rose have been responded to above as being non-persuasive. Since these arguments are non-persuasive, the arguments of applicants that Chen et al. does not remedy the deficiencies of Rose are moot as there is no need for Chen et al. to remedy a deficiency that does not exist.

Claims 38, 59, 60, 63, and 65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

No claim is allowed.

All claims are drawn to the same invention claimed in the parent application prior to the filing of this Continued Prosecution Application under 37 CFR 1.53(d) and could have been finally rejected on grounds and art of record in the next Office action. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing under 37 CFR 1.53(d). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is (703) 308-4242.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703) 308-3894. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached on (703) 308-1152.

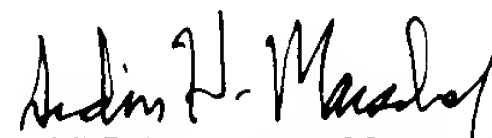
Serial No. 08/726,093

- 6 -

Art Unit: 1634

Any inquiry of a general nature or relating to the status of this application should be directed to the Chemical Matrix receptionist whose telephone number is (703) 308-0196.

September 30, 1998

  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER